

Karyotyping the Date Palm (*Phoenix dactylifera* L.)

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Abstract : The karyotypes of Khalas (KH), Sukkary (SK), Sheeshi (SS), Shibeebi (SB) and Sillije (SJ) date palm cultivars were investigated. Data showed no variation in chromosome number, $2n = 36$, 34 autosomes in addition to XX in females and XY in males. Mean autosomes length ranged from 3.85-9.93 μm and 3.71-2.73 μm for X and Y chromosomes, respectively. The formula of female date palm karyotype was $8m + 4sm + 2st + 4t$, and submedian Y chromosome. Relative chromosome length ranged from 3.3- 9.38 μm . SS cultivar showed high asymmetry levels by scoring low values of Syi (45.51), TF (42.8) and high values for A1 (0.53), A (0.41) and AI (0.29). Syi developed an inverse relation with A1 and A while A exhibited a direct correlation with A1. Cultivars SK, SB and SJ score medium values of Syi, A1, AI and A. KH cultivar exhibited high symmetry by scoring highest values of Syi (53.68), TF (51.81) and lowest values of A1 (0.44), A (0.34) and AI (0.18). Higher DI value was obtained in SB cultivar (1.34) followed by SJ (1.15) and low DI scores of 0.99, 0.86 and 0.71 were detected in KH, SS and SK, respectively. Stebbins classification assorted SS as 3B and the other cultivars as 2B, insuring the evolution and asymmetry of SS compared to the other karyotypes. Scatter diagram of Syi-A1 couple has the advantage of revealing high degree of sensitivity to present karyotype interrelationships, followed by AI-A and CVCL-CVCI couples.

Keywords : Karyotype, date palm, Khalas, Sukkary, Sheeshi

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020